What is claimed is:

1. A zoom optical system comprising:

a deformable element having a focusing function; and

two lens groups movable in a magnification change,

wherein the two lens groups have a magnification varying function or a compensating function for compensating for a shift of an image surface.

2. A zoom optical system according to claim 1, wherein the following condition is satisfied:

$$0.40 < |\beta_{DMW}| < 1.0$$

where β_{DMW} is a magnification, at a wide-angle end position, of all of lens groups that are disposed on an image side of the deformable element.

3. A zoom optical system according to claim 1, wherein lenses constituting the lens groups have at least one lens surface that is rotationally symmetric, and the lens surface is disposed as decentered from an optical axis.

4. A zoom optical system according to claim 1, wherein the zoom optical system has a magnification varying group having a magnification varying function, and the deformable element is disposed before the magnification varying group.

5. A zoom optical system according to claim 1, wherein the deformable element is deformable from a predetermined first state to a second state where the zoom optical system is focused on an

object that is placed at an infinity, from the second state to a third state where the zoom optical system is focused on an object that is placed at a proximity, and from the third state to a predetermined fourth state that is different from the first state, and satisfies the following condition:

$$4 \cdot Fno \cdot P < Zf < 30 \cdot Fno \cdot P$$

where Zf is an amount of shift of an image surface, at a wide-angle end position, when deformation is made from the first state to the second state and also when deformation is made from the third state to the fourth state, P is a value given by $P = \sqrt{(Px \cdot Py)}$ where Px is a dimension in x direction of a pixel included in an image pickup element and Py is a dimension in y direction of the pixel in the image pickup element, and Fno is an F number of an imaging optical system.

6. A zoom optical system according to claim 1, wherein the following condition is satisfied:

$$0.1 \leq |md/\sqrt{(f_w \times f_t)}| < 5.0$$

where md (in micrometers) is a maximum amount of deformation of the deformable element, f_w is a focal length of the zoom optical system at a wide-angle end position, and f_t is a focal length of the zoom optical system at a telephoto end position.

7. A zoom optical system according to claim 1, wherein the following condition is satisfied at least at a position in a zooming range:

$$0.2 < \theta i < 4.0$$

where θi is an angle formed by an optical axis and an image pickup surface.

8. A zoom optical system according to claim 1, wherein at least one of refracting surfaces in the zoom optical system is formed as a rotationally asymmetric surface.

9. A zoom optical system according to claim 1, wherein the following condition is satisfied:

$$0.001 \leq |\delta/\sqrt{(f_w \times f_t)}| < 0.5$$

where δ is an amount of shift of a lens surface.

10. A zoom optical system according to claim 1, wherein the deformable element is shaped to have a rotationally asymmetric curved surface.

11. A zoom optical system comprising, in order from an object side:

a first group having a negative power and being fixed in a magnification change;

a second group having a positive power and being movable in a magnification change; and

a third group movable in a magnification change,

wherein the first group has a deformable element having a focusing function, and satisfies the following condition:

$$-0.5 < f_{1a}/f_{1b} < -0.03$$

where f_{1a} is a power of a negative lens unit arranged on an object side of the deformable element in the first group, and f_{1b} is a power of a positive lens unit disposed on an image side of the deformable element in the first group.

12. A zoom optical system according to claim 11, wherein the second group mainly contributes to a magnification varying function and satisfies the following condition:

$$0.5 < f_2/\sqrt{(f_w \times f_t)} < 5.0$$

where f_2 is a focal of the second group, f_w is a focal length of the zoom optical system at a wide-angle end position, and f_t is a focal length of the zoom optical system at a telephoto end position.

13. A zoom optical system according to claim 11, wherein the following condition is satisfied:

$$0.2 < |\beta_{2W}| < 0.8$$

where β_{2W} is a magnification from the second group to a rearmost lens unit at a wide-angle end position.

14. A zoom optical system according to claim 11, wherein the following condition is satisfied:

$$0.5 < SD/f_w < 5.0$$

where SD is a distance from a front-side principal point of the second group to a most object-side surface of the second group, and f_w is a focal length of the zoom optical system at a wide-angle end position.

15. An imaging apparatus comprising:
a zoom optical system according to claim 1.

16. An imaging apparatus comprising:
a zoom optical system according to claim 11.